UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

74321   7590   07/09/2010

LAHIVE & COCKFIELD, LLP/THE MATHWORKS
FLOOR 30, SUITE 3000
One Post Office Square
Boston, MA 02109-2127

EXAMINER
FREJD, RUSSELL WARREN

ART UNIT	PAPER NUMBER
2128	

DATE MAILED: 07/09/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,746	11/25/2003	Donald P. Orofino II	MWS-027	7299

TITLE OF INVENTION: SIGNAL INHERITANCE IN A GRAPHICAL MODEL ENVIRONMENT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$0	$0	$1510	10/12/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**   Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax   (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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LAHIVE & COCKFIELD, LLP/THE MATHWORKS
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Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

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nonprovisional	NO	$1510	$0	$0	$1510	10/12/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
FREJD, RUSSELL WARREN	2128	703-013000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.   OMB 0651-0033   U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1714 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1714 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	Applicant(s)
Notice of Allowability	10/722,746	OROFINO ET AL.
	Examiner	Art Unit
	Russell Frejd	2128

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment received 3/24/10*.

2. ☒ The allowed claim(s) is/are *1-24,26-31,33,34,36-55,57-60,62-64,66-75,78-81 and 83-88*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

      a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

            1. ☐ Certified copies of the priority documents have been received.

            2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

            3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the
                International Bureau (PCT Rule 17.2(a)).

     * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
       Paper No./Mail Date _____ .

    **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of
    each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the
    attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08),
    Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit
    of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
    Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Russell Frejd/
Primary Examiner, Art Unit 2128

Allowance of Application #10/722,746

1.   The following communication is in response to applicant's amendment received 24-

March-2010. Claims 1-24, 26-31, 33, 34, 36-55, 57-60, 62-64, 66-75, 78-81, and 83-88 are

pending in the application. Claims 25, 32, 35, 56, 61, 65, 76, 77, 82, and 89 are canceled.

Further, the specific arguments as presented in applicant's present response, on pages 22-29,

are considered persuasive, and therefore the previously applied rejections have been

withdrawn.

Examiner's Amendment

2.   An Examiner's Amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R.

1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the

payment of the Issue Fee.

2.1   In the Claims:

Claims 52, 60, 63, 68, and 80   Line 1   Change "device readable medium" to

                                                                                 --device readable storage medium--.

Reasons for Allowance

3.   The following is an Examiner's Statement of Reasons for the indication of allowable

subject matter. The present application is directed to a non-obvious improvement over the

article authored by Taniar, entitled *"Inheritance and Parallelization: Emerging Object-Oriented*

and Parallel Technologies for High Performance Database Systems", which teaches the

efficient parallelization of inheritance queries through the use of horizontal and vertical

inheritance division structures, and specifically a "linked-vertical division", which is demonstrated to be better than the traditional horizontal and vertical divisions.

3.1   Claims 1-24, 26-31, 33, 34, 36-55, 57-60, 62-64, 66-75, 78-81, and 83-88 are considered allowable, since when reading the claims in light of the specification, as per MPEP § 2111.01, none of the references of record, either individually or in combination, disclose the specific arrangement of elements in the same combination specified in independent claims nos. 1, 24, 30, 34, 40, 52, 60, 63, 68, 75, 80, and 85 for providing a graphical modeling environment, specifically including:

(claim 1) "providing a first signal type for a signal in the graphical modeling environment; and defining a second signal type that inherits from the first signal type; and registering at least one of the first and second signal types with a registry of the graphical modeling environment."

(claim 24) "providing a first object class that represents a first signal type; defining a second object class that inherits from the first object class; and instantiating an object of the second object class in representing a second signal type in the graphical modeling environment, wherein the graphical modeling environment comprises a programming environment for developing and performing scientific related functions."

(claim 30) "providing two or more base object classes, each of the base object classes representing a signal type; defining a first object sub-class that inherits from at least two of the base object classes; instantiating an object of the first object sub-class in representing a first signal in the graphical modeling environment; defining a second object sub-class that inherits from at least two of the base object classes; constraining one or more base class attributes in defining the second object sub-class; and instantiating an object of the second object sub-class in representing a second signal in the graphical modeling environment."

(claim 34) "providing a first parent class that represents a first parent signal type; providing a second parent class that represents a second parent signal type; defining a first derived class that inherits from the first and the second parent signal class; and instantiating an object of the first derived class representing a derived signal type in the graphical modeling environment."

(claim 40) "providing a first block that outputs an instance of a first object class that represents a first signal type; propagating the instance of the first object class from the first block to a second block in the graphical modeling environment, the second block processing a feature of the first object class; and propagating from an output of the second block an instance of a second object class that inherits from the first object class, wherein the instance of the second object class represents a second signal type in the graphical modeling environment."

(claim 52) "defining a first signal type in the graphical modeling environment; defining a second signal type that inherits from the first signal type, wherein said second signal type is programmatically defined in the graphical modeling environment; and rendering on a display of an electronic device a first graphical form representing the first signal type and a second graphical from representing the second signal type."

(claim 60) "creating a first class that represents a first signal type; creating a second class that inherits from the first class; instantiating an object of the second class in representing a second signal type in the graphical modeling environment; creating a third class that inherits selected features from the first class; and instantiating an object of the third class in representing a third signal type in the graphical modeling environment."

(claim 63) "defining two or more base object classes, each of the base object classes representing a signal type in the graphical modeling environment; defining a first object sub-class that inherits from at least two of the base object classes; instantiating an object of the first

object sub-class in representing a signal type in the graphical modeling environment; defining a second object sub-class that inherits from at least two of the base object classes; and constraining one or more base class attributes in defining the second object sub-class."

(claim 68) "providing a first block that outputs an instance of a first object class that represents a first signal type; communicating the instance of the first object class from the first block to a second block in the graphical modeling environment, the second block processing a feature of the first object class; and in the second block, outputting an instance of a second object class that inherits from the first object class, wherein the instance of the second object class represents a second signal type in the graphical modeling environment."

(claim 75) "providing a first signal type for a first signal in the graphical modeling environment, said signal type deriving from a parent signal type; instantiating the first signal type in representing the first signal in a model in the graphical modeling environment; providing a block in the graphical modeling environment having a structure and operation for processing a second signal representing the parent signal type; receiving the first signal at a port of the block; and processing a portion of the first signal in the block using the structure and operation."

(claim 80) "providing a second signal type for a signal in the graphical modeling environment, said signal type deriving from a first signal type; instantiating the second signal type in representing the signal in a model in the graphical modeling environment; providing a block in the graphical modeling environment having a structure and operation for processing a signal representing the first signal type; receiving the signal of the second signal type at a port of the block; and processing a portion of the signal in the block using the structure and operation."

(claim 85) "An electronic device for use in practicing a technical computing environment, the technical computing environment for developing and performing engineering

and scientific related functions, the electronic device comprising: an input device for use by a user; a graphical model environment providing a first signal type; and an interface responsive to inputs from the user to communicate with the graphical model environment to define a second signal type that inherits from the first signal type."

It is for these reasons that the claims of the present application are found to be patentable over the prior art.

Dependent claims 2-23, 26-29, 31, 33, 36-39, 41-51, 53-55, 57-59, 62, 64, 66, 67, 69-74, 78, 79, 81, 83, 84, and 86-88 are deemed allowable as depending either directly or indirectly from allowed independent claims 1, 24, 30, 34, 40, 52, 60, 63, 68, 75, 80, and 85.

Response Guidelines

4.   Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

4.1   Any response to the Examiner in regard to this allowance should be

directed to: Russell Frejd, telephone number (571) 272-3779, Monday-Friday
from 0700 to 1530 ET, **or** the examiner's supervisor, Kamini Shah,
telephone number (571) 272-2279. Inquires of a general nature or
relating to the status of this application should be directed to the
TC2100 Group Receptionist (571) 272-2100.

mailed to: Commissioner of Patents and Trademarks
P.O. Box 1450, Alexandria, VA 22313-1450

or faxed to: (571) 273-8300

Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

_____/Russell Frejd/_____
Primary Examiner   AU 2128